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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,941	08/28/2006	Shunji Sekiguchi	295473US0PCT	2658

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ALEXANDRIA, VA 22314

EXAMINER

ZEMEL, IRINA SOPHIA

ART UNIT	PAPER NUMBER
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1796

NOTIFICATION DATE	DELIVERY MODE
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08/20/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/590,941	Applicant(s) SEKIGUCHI ET AL.	
	Examiner Irina S. Zemel	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3, 10, 11 and 13-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3, 10-11, 13-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 10-11, 13-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 2, the polypropylene -based random co-polymer is recited as “obtainable” by a polymerization in the presence of a metallocene catalyst. The term “obtainable” renders the claims since undue experimentation is involved to determine boundaries of protection. This rationale is applicable to polymer “obtainable” by a stated process because any variation in any parameter within the scope of the claimed process would change the polymer produced. One who made or used a polymer made by a process other than the process cited in the claim would have to produce a polymer using all possible parameters within the scope of the claim, and then extensively analyze each product to determine if this polymer was obtainable by a process within the scope of the claimed process. See ***Ex parte Tanksley***, 26 USPQ 2d 1389.

It is noted that claim 17 is recited as an independent claim. None of the recited elements have proper antecedent basis.

Claim Rejections - 35 USC § 102

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 17 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by JP 2-173009 to Mitsui Petrochemical Industries., (hereinafter "Mitsui '009").

Mitsui '009 discloses modified polypropylene (PP) resin with T_m of the PP as low as 70 C. See page 1 of the translation, parameter (B).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 2, 10-11, 13-15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Usui et al U.S. Patent 6,800,688 in combination with WO 03/057778 to (Komoto et al U.S. Patent 7,208,552 used as English language equivalent) and further in combination with Mitsui '009 .

The rejection of claim 17 is made with the assumption that claim 17 depends on claim 2.

The Usui and Komoto references have been discussed in detail in the previous office action. This discussion is incorporated herein by reference. The Usui reference does not address the melting temperature (T_m) property of the random PP polymer prior to modification, thus implying that random PP of any known T_m and generally known to be suitable for the applications disclosed in Usui are suitable for as the underlying PP polymer for invention of Usui. Mitsui specifically discloses that random PP co-polymers useful as adhesives should have T_m as low as 70 C, (which overlaps with the claims T_m), and, in addition, (similarly to the teachings of Komoto), teaches that the PP melting point is a variable governing solubility of the modified PP in solvents. Therefore, is the PP polymers disclosed in illustrative examples of Usui do not inherently have T_m corresponding to the claimed, it would have been obvious for an ordinary artisan to use underlying PP with T_m as low as 70 C to achieve the desired solubility and other properties of the polymer that are consistent with low melting temperatures of Pp polymers. In the absence of showing of unexpected results that can be attributed to low claimed T_m .

Claim 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Usui et al U.S. Patent 6,800,688 in combination with Komoto and Mitsui '009 as applied to claim 2 above, and further in view of Kimura et al U.S. Patent 5,539,043.

The rejection stands as per reasons of record and discussion of claim 2 above.

Response to Arguments

Applicant's arguments filed 7-20-2009 have been fully considered but they are not persuasive. The applicants argue that Usui fails to teach random PP polymers obtained using metallocene catalyst. The applicants further state that by using this feature (i.e., metallocene catalyzed PP polymer), not only good adhesion, but also good resistance to various solvents is achieved. The applicants further argue that the solvent resistance tests were conducted for much longer times in the present application than in Usui's patent. None of those arguments are found to be convincing for at least the reason that the rejection of claims was never issued over the Usui reference alone. The applicants argue the advantages of metallocene catalyzed modified PP polymers over the PP polymers obtained by Ziegler Natta catalysts disclosed in Usui. The rejection, however, was over Usui reference AS MODIFIED in view of Komoto reference, and it is the Komoto reference that teaches the feature of metallocene catalyzed PP polymers. The question is whether the advantages argued by the applicants are unexpected in view of the combined teaching of these two references, not Usui alone. The applicants argue that it would not have been obvious to "extract the feature (C)" from Komoto and apply to Usui, (i.e., to use metallocene catalyzed PP in invention of Usui). The applicants further state that "Komoto discloses that use of the metallocene catalyst results in higher adherence. Therefore, it may be obvious for one skilled in the art to improve adherence by replacing the Ziegler-Natta catalyst with metallocene catalyst." This statement is contradictory to the previous statement that it would not have been obvious to "extract the feature (C)" from Komoto and apply to Usui. Specifically, if there is

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a reason (as admitted by the applicants) to combine references, it does not matter what this reason is and whether it is the same reason as the reason that motivated the applicants in their invention. As held by the court the reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by applicant. See, e.g., *In re Kahn*, 441 F.3d 977, 987, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) (motivation question arises in the context of the general problem confronting the inventor rather than the specific problem solved by the invention); *Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1323, 76 USPQ2d 1662, 1685 (Fed. Cir. 2005) ("One of ordinary skill in the art need not see the identical problem addressed in a prior art reference to be motivated to apply its teachings."); *In re Linter*, 458 F.2d 1013, 173 USPQ 560 (CCPA 1972); *In re Dillon*, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1990), *cert. denied*, 500 U.S. 904 (1991).

The applicants stated that "Komoto does not disclose whether the use of metallocene catalyst can improve gasoline resistance, gasohol resistance and water resistance. Komoto is totally silent about gasoline resistance", and that while Komoto includes experimental results of gasohol resistance and water resistance, all of the results (of both the Examples and Comparative Examples) are simply indicated as "Good" (except for the result of the gasohol resistance of Comparative Example 3- (see Table 2 of Komoto), which is apparently attributed to the excess amount of chlorine as apparent from the comparison between the

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comparative Examples 3-2 and 3-3 (see Table 1, column of "Chlorine content" of Komoto)). Therefore, as to gasohol resistance and water resistance, Komoto merely indicates that metallocene catalyst is at the same level as Ziegler-Natta catalyst. "

The examiner, first of all, disagrees such interpretation of Komoto reference. The reference expressly states in column 15, lines 31-34, that as evidenced "from Table 2, the chlorinated products of propylenic random copolymer produced by using metallocene catalyst as a polymerization catalyst have better gasohol resistance than that of the chlorinated products of IPP produced by using conventional Ziegler Natta catalyst as a polymerization catalyst.". thus clearly attributing better gasohol resistance to the catalyst, not the amount of chlorine. In addition, contrary to the applicants' interpretation of the results in table 2, metallocene catalyzed example 3-3, having 26.1 % chlorine has better gasohole resistance than Ziegler Natta catalyzed comparative example 3-3 having 26 % of chlorine. Thus, better gasohol resistance can be clearly attributed to the catalyst, not to the amounts of chlorine by comparing example 3-3 with comparative example 3-3 (having all of the other variable pretty much the same with the exception of catalyst). It is further noted that the examples and comparative examples presented in the instant application (examples 1-5 and comparative examples 1-4) also indicate that water resistance is good for either metallocene or Ziegler Natta catalyzed modified PP, but gasohol resistance worsened for Ziegler catalyzed PP, which is consistent with the disclosure of Komoto. In addition, examples 1-5 could not be even probatively compared with

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each other for conclusive evidence on catalyst influence on the properties since the underlying polymers obtained using Ziegler Natta catalyst have significantly lower amount of propylene in it.

The applicants further argue that the properties reported in Komoto are for chlorinated polypropylene co-polymers, and the results would be lower for unchlorinated PP polymers. This arguments is not convincing at all. As discussed above, the DIFFERENCE in properties can be attributed to the catalyst used in polymerization of backbone PP polymer. It is irrelevant what the absolute value of any given property is for modified or unmodified PP polymer, what is relevant is that a predictable difference is expected in ANY type of modified polymer regardless of type of modification based on the underlying PP polymer (type of catalyst), and this difference is expected, as discussed above, and as shown by the Komoto reference for any modified polymer (see table 2 and expressed statement evidenced "from Table 2, the chlorinated products of propylenic random copolymer produced by using metallocene catalyst as a polymerization catalyst have better gasohol resistance than that of the chlorinated products of IPP produced by using conventional Ziegler Natta catalyst as a polymerization catalyst." of Komoto).

It is true that the Komoto reference is silent with respect to the gasoline resistance. However, 1 – similar trends is normally expected for both gasohol and gasoline resistance, and 2 – even is, arguendo, improvement in gasoline resistance is unexpected and probatively shown (which it is NOT), discovery of a new property of otherwise completely obvious composition or polymer is not

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tantamount to a patentable invention and does not outweigh the prima facie obviousness.

The last argument is directed to the T_m of the underlying PP. This arguments is discussed in the body of the rejection. Insofar as the applicants arguments regarding example 14 in table 3 and 4, it is noted that the claimed T_m is NOT the T_m of the modified polymer, but the underlying PP, which is not measured for comparative example 14, the results are extremely confusing as it is impossible to actually understand what constitutes polymer of comparative example 14 (defined as comparative example 8 (prototype 9) in [0018]) of the instant specification), and even if, the results are shown for T_m 148 of the unmodified PP, it is way above the claimed T_m of 130 C, which fails to establish the criticality of the claimed T on ANY of the properties of the modified polymer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina S. Zemel whose telephone number is (571)272-0577. The examiner can normally be reached on Monday-Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571)272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Irina S. Zemel/
Primary Examiner, Art Unit 1796

Irina S. Zemel
Primary Examiner
Art Unit 1796

ISZ